



**RESIDENTIAL HVAC ALTERATION: CLIMATE ZONE 3**

The Appliance Efficiency Regulations (Title 20) require gas and oil-fired central furnaces with outputs less than 225,000 Btu/hr to be rated according to the associated Annual Fuel Utilization Efficiency (AFUE). Gas and oil-fired central furnaces with outputs greater than or equal to 225,000 Btu/hr are rated according to the respective thermal (or steady-state) efficiency. Refer to Table 4-1 for the applicable efficiency requirements.

**Table 4-1: Minimum Efficiency for Gas and Oil-Fired Central Furnace**

Appliance	Rated Input (Btu/hr)	Minimum Efficiency (%)	
		AFUE	Thermal Efficiency
Weatherized gas central furnace with single phase electrical supply	<225,000	81	-
Non-weatherized gas central furnace with single phase electrical supply	<225,000	80	-
Weatherized oil central furnace with single phase electrical supply	<225,000	78	-
Non-weatherized oil central furnace with single phase electrical supply	<225,000	83	-
Gas central furnace	≥ 225,000	-	80
Oil central furnace	≥ 225,000	-	81

*Source: California Appliance Efficiency Regulations Title-20 – Table E-4 and E-6*

Non-central gas furnace and space heaters shall be certified to have AFUE values greater than or equal to those listed in Table 4-2.

- Air conditioning condensers are required to be located at least 5 feet from a clothes dryer vent outlet.
- Gas furnace must be designed and installed to meet the manufacturer’s maximum temperature split in heating mode.
- Minimum duct insulation R-6 is required.
- Duct sealing and field verification is a mandatory measure.



CERTIFICATE OF COMPLIANCE	CF1R-ALT-03-E
Alterations - HVAC CZ 1, 3 to 7 and 16	(Page 1 of 1)

<b>Site Address:</b>		<b>Enforcement Agency:</b>		<b>Date Prepared:</b>	<b>Permit#:</b>
Equipment Type		Equipment Efficiency		New: Ducting or Lineset Required R-value	Conditioned Floor Area (ft <sup>2</sup> )
<input type="checkbox"/> Packaged System	<input type="checkbox"/> Evaporator Coil	_____AFUE	_____COP	<input type="checkbox"/> R-6 (CZ 1-10,12&13) Ducts	Served by system
<input type="checkbox"/> Split System	<input type="checkbox"/> Condensing Unit	_____SEER	_____HSPF	<input type="checkbox"/> R-8 <sup>1</sup> (CZ 11,14-16) Ducts	_____ft <sup>2</sup>
<input type="checkbox"/> Furnace	<input type="checkbox"/> Lineset	_____EER		<input type="checkbox"/> ≥ R-2.8 Lineset <sup>3</sup>	<input type="checkbox"/> Setback (If not already present, must be installed)

**HERS VERIFICATION SUMMARY** Installer determines work to be completed and matches to one of the options below. At permit application this form is allowed to be filled out by hand. For final inspection all forms are to be registered (no hand filled forms allowed) and a copy left on site.

<input type="checkbox"/> <b>1. HVAC Changeout/Repair</b> (Can include new ducting)	<b>Required Compliance Documents to be left on site for Final:</b>
All Equipment, Condenser Unit, Evaporator Coil, Air Handler/Furnace	CF1R-ALT-02-E CF2R: MCH-01, MCH-20-H CF3R: MCH-20-H

**Installer Requirement:** Duct leakage (≤15% or, ≤10% to outside, or seal all accessible leaks)  
 Exempted from duct leakage testing if:  
 1. Duct system registered with HERS provider as previously sealed, or  2. There is less than 40 linear feet of duct in unconditioned space, or  3. Existing duct systems are constructed, insulated or sealed with asbestos (list manufacture date of building \_\_\_\_\_)

<input type="checkbox"/> <b>2. New HVAC System</b>	<b>Required Compliance Documents to be left on site for Final:</b>
All new equipment and All New Ducts <sup>2</sup>	CF1R-ALT-02-E CF2R-MCH-01-E, MCH-20-H, MCH-22-H, MCH-(23 or 24)-H CF3R-MCH-20-H, MCH-22-H, MCH-(23 or 24)-H <sup>2</sup>

**Installer Requirement:** Duct leakage ≤ 5%, Fan Efficacy (0.58W/CFM), Air Flow ≥ 350 CFM/ton (or Standards Table 150.0-B / C alternative)

<input type="checkbox"/> <b>3. All New Ducts with Replacement</b>	<b>Required Compliance Documents to be left on site for Final:</b>
Includes replacing or installing All New Ducts <sup>2</sup> and one or more of the following: Condenser Unit, Evaporator Coil, Furnace	CF1R-ALT-02-E CF2R-MCH-01-E, MCH-20-H, MCH-(23 or 24)-H CF3R-MCH-20-H, MCH-(23 or 24)-H

**Installer Requirement:** Duct leakage ≤ 5%, Air Flow ≥ 350 CFM/ton (or Standards Table 150.0-B / C alternative)  
 Exempted from duct leakage testing if existing duct systems are constructed, insulated or sealed with asbestos.

<input type="checkbox"/> <b>4. New Ducting over 40 feet</b>	<b>Required Compliance Documents to be left on site for Final:</b>
Adding or replacing ducts in unconditioned space but less than All New Ducts <sup>2</sup>	CF1R-ALT-02-E CF2R-MCH-20-H CF3R-MCH-20-H

**Installer Required to:** Duct leakage (≤15% or, ≤10% to outside, or seal all accessible leaks)  
 Exempted from duct leakage testing if existing duct systems are constructed, insulated or sealed with asbestos.

<sup>1</sup> All new ducting requires R-8 insulation when more than 40 ft installed in CZs 11 & 14-16 and R-6 in CZs 1-10, 12 & 13, and R-6 insulation when less than 40 ft installed. This includes in walls, between floors etc.  
<sup>2</sup> A New Duct system is when the duct system is constructed of at least 75 %new duct material, and up to 25%may consist of reused parts from the dwelling unit's existing duct system (e.g., registers, grilles, boots, air handler, plenums, duct material).  
<sup>3</sup> R-2.8 (1" thick insulation) for linesets 1" and less.

**Contractor (Documentation Author's /Responsible Designer's Declaration Statement)**

I certify the following under penalty of perjury, under the laws of the State of California:

- The information provided on this Certificate of Compliance is true and correct.
- I am eligible under Division 3 of the California Business and Professions Code to accept responsibility for the information on this document.
- That the energy features and performance specifications for the design identified on this Certificate of Compliance conform to the requirements of Title 24, Parts 1 and 6 of the California Code of Regulations (CCR).
- That the energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the CCR.
- The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.

Responsible Designer Name:	Responsible Designer Signature:	Date Signed:	License:
Company :	Address:	City/State/Zip:	Phone: